

Awake!

Is Your Life Truly Satisfying?

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Oil Problems Shake the World's Economy

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Meeting the Largest of the Great Apes

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The Art of Musical Improvisation

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AUGUST 8, 1974

THE REASON FOR THIS MAGAZINE

News sources that are able to keep you awake to the vital issues of our times must be unfettered by censorship and selfish interests. "Awake!" has no fetters. It recognizes facts, faces facts, is free to publish facts. It is not bound by political ties; it is unhampered by traditional creeds. This magazine keeps itself free, that it may speak freely to you. But it does not abuse its freedom. It maintains integrity to truth.

The viewpoint of "Awake!" is not narrow, but is international. "Awake!" has its own correspondents in scores of nations. Its articles are read in many lands, in many languages, by millions of persons.

In every issue "Awake!" presents vital topics on which you should be informed. It features penetrating articles on social conditions and offers sound counsel for meeting the problems of everyday life. Current news from every continent passes in quick review. Attention is focused on activities in the fields of government and commerce about which you should know. Straightforward discussions of religious issues alert you to matters of vital concern. Customs and people in many lands, the marvels of creation, practical sciences and points of human interest are all embraced in its coverage. "Awake!" provides wholesome, instructive reading for every member of the family.

"Awake!" pledges itself to righteous principles, to exposing hidden foes and subtle dangers, to championing freedom for all, to comforting mourners and strengthening those disheartened by the failures of a delinquent world, reflecting sure hope for the establishment of God's righteous new order in this generation.

Get acquainted with "Awake!" Keep awake by reading "Awake!"

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Awake!

"It is already the hour for you to awake."

—Romans 13:11

Volume LV

August 8, 1974

Number 15

Is Your Life

TRULY SATISFYING?

A MOTHER of six children in a Latin-American country knows that her husband has been having sex relations with another woman for the past ten years and is trying to "conquer" yet another. She cannot go to court to divorce him; there is no provision for divorce in that country. Nor can she afford to separate from him, because she needs the financial support for his children. If you had to live under such conditions, would you find life truly satisfying?

Perhaps your case is not so severe. But are you a housewife? Does the seemingly endless routine of cleaning, cooking, shopping, mending, washing and ironing get to you at times? And how about trying to make ends meet when faced with the ever-rising cost of living? These things have caused many a homemaker to feel that her life is far from satisfying.

Men, too, become frustrated. Overcrowded subways and buses, traffic jams and parking problems try the patience of millions daily. Sometimes the cause of dissatisfaction goes deeper, as in the case of an executive of a drug company in a large

Latin-American city.

This man put his whole life into his job, even working for years without taking a

vacation. Overtime work was the rule for him rather than the exception. But now, after twenty-five years of faithful service on his part, the company suffers from internal frictions and is near bankruptcy. The resulting anxiety and despair have adversely affected this man's health and disposition. After all those years of service he wonders: "Has it really been worth it?"

What about you? Do you find your life truly satisfying? Do your goals in life seem worth while? What can you do to combat the frustrations that, for many, dampen the joy of living?

Some Causes of Frustration

While some people suffer from circumstances over which they have no control, to a large extent people cause their own vexations. It is as the Bible itself truthfully states: "Whatever a man is sowing, this he will also reap."—Gal. 6:7.

Part of the problem may be one's attitude. Do you have a tendency to stress the negative side of matters? This can be damaging, for it gives rise to feelings of self-pity and a spirit of complaint. Would it not

be better to dwell upon the benefits of your daily routine? The Bible says that people should "see good" for all their hard work. (Eccl. 5:18) Viewing the positive side of things might do much to help you to get more satisfaction out of life.

Even with a positive viewpoint, however, pursuing material security as one's principal aim in life can rob one of satisfaction. That is what happened to the executive mentioned above. He and millions like him throughout the world

have learned from hard experience that the Bible tells the truth when it says: "A mere lover of silver will not be satisfied with silver, neither any lover of wealth with income. This too is vanity." (Eccl. 5:10) Are your major goals centered around material things? Might not a fresh outlook on life be of benefit to you?

Sexual immorality, too, has become common, but what are the results? If a person is married, immorality drives a wedge between family members. The immoral person may suffer from horrible venereal diseases or other physical maladies on account of a guilty conscience. Most seriously, this type of conduct destroys one's relationship with God. Is that really the kind of life that you want?

On the other hand, the circumstances that rob your life of real meaning may not all be of your own making. The present system of things is a major cause of vexation for many. People squirm under the pressure of housing shortages, skyrocketing food prices and high taxes. There is injustice. Racial tension, drug abuse,

crime and violence plague cities throughout the world. Knowing that they are powerless to bring about a change, some become disillusioned with life.

The Key to Satisfaction in Life

Many people, though unsatisfied with their lives, do nothing about even those situations that they could improve. Some alcoholics, for example, realize the harm that they do to themselves and to their loved ones. But how many change

- ***Coping with the Rising Tide of Vandalism.***
 - ***Whatever Happened to the Moon Trips?***
 - ***Nervous Breakdown—Cure or Prevention?***
- In the next issue.

on the basis of these things alone? A key element that could provide sufficient motivation to change is lacking in the lives of such people. What is that?

The sincere desire to please mankind's Creator. Hundreds of thousands of people throughout the world have found that such a desire has given them the impetus to change their entire course of life. But this desire does not become an impelling force without personal effort. Are you willing to put forth such effort? What would that require?

First of all, a person must study the Bible, which will help him to get acquainted with God's distinctive personality and His viewpoint on matters. He will learn why there have been sickness and death, why wickedness has been permitted, also concerning the Creator's purpose to destroy the present corrupt system of things and to provide one government for all mankind, a righteous one that will control from heaven. (Dan. 2:44; Isa. 11:1-5) He will find out about God's provision to bring back to life on this earth billions of the

dead, and that at a time when the earth has been made a paradise.—Luke 23:43; Acts 24:15.

How does such knowledge affect an honest person? Well, how do you feel when you meet a warm, compassionate, impartial, thoughtful and generous person? Are you not attracted to him with the desire to return in some small way the kindness that he has shown to you? It is the same when people learn of God's compassionate dealings with mankind and his loving purpose for their everlasting good. Such knowledge motivates them to make changes in their lives. They do this willingly, knowing that the way to show love for God is to "observe his commandments; and yet his commandments are not burdensome."—1 John 5:3.

People on every continent and from all walks of life have found that love for God prompted by accurate knowledge of his Word has been the key to a satisfying life for them. Not only are God's commandments "not burdensome," but they bring definite benefits now to those keeping them. Consider some of these.

Benefits from the "New Personality"

The apostle Paul, at Colossians 3:9, 10, 12, 13, counsels: "Strip off the old personality with its practices, and clothe yourselves with the new personality. . . . clothe yourselves with the tender affections of compassion, kindness, lowliness of mind, mildness, and long-suffering. Continue putting up with one another and forgiving one another freely if anyone has a cause for complaint against another." Perhaps you say that you are just not that sort of person. But the Bible can help you to change, and how worth while it is! These godly qualities can aid you to face calmly the many irksome situations that befall a person every day, even if matters should be as trialsome as those of the woman men-

tioned at the outset of this article.—See also Ephesians 4:20-32.

Think, too, of the benefits of obeying the Scriptural command: "Deaden, therefore, your body members that are upon the earth as respects fornication, uncleanness, sexual appetite, hurtful desire, and covetousness." (Col. 3:5) And what a notable blessing results from observing the precept: "Now really put them all away from you, wrath, anger, badness, abusive speech, and obscene talk out of your mouth"! (Col. 3:8) The clean conscience, self-respect, improved health and emotional security that can result to a person and his loved ones from such a change make it well worth all the effort.

"Never Be Anxious"

for Life's Necessities

Anxieties over obtaining necessary things such as food and clothing steal satisfaction from the lives of millions of people. But, as recorded in the Bible at Matthew 6:31-33, Jesus Christ counseled: "Never be anxious and say, 'What are we to eat?' or, 'What are we to drink?' or, 'What are we to put on?' . . . Keep on, then, seeking first the kingdom and his righteousness, and all these other things will be added to you." Not that Christians expect God to provide for them miraculously without any effort on their part. The Scriptural rule is: "If anyone does not want to work, neither let him eat." (2 Thess. 3:10) But the Bible has aided them to have strong faith in God, so they do not become frantic over these matters.

Even more of life's frustrations disappear when one develops the Bible's view of what is truly valuable. We read at Psalm 119:72: "The law of your [God's] mouth is good for me, more so than thousands of pieces of gold and silver." Those who consider spiritual things of greater worth than material ones find themselves agree-

ing with the apostle Paul, who said: "Having sustenance and covering, we shall be content with these things." (1 Tim. 6:8) Whatever their circumstances, they learn to make the best of them.

They Found Satisfaction in Life

In more than 200 lands throughout the earth today the Bible has helped people to overcome frustrations and to live a life that is truly satisfying. The experience of a Royal Canadian Navy veteran is an example:

"Four years of military experience during World War II changed me from a naïve young volunteer sailor into a politically conscious veteran, eager to struggle on the civilian front for the freedoms and justice for which we had fought—supposedly.

"A higher education seemed essential to achieve my goal; so off I went to a university. But I soon realized that existing political institutions and economic systems fall painfully short of satisfying man's need for impartial justice, equality of opportunity, and genuine brotherhood. I felt disillusioned and frustrated.

"Half way through my university education my wife and I began to study the Bible with Jehovah's witnesses. At last we started getting answers to our questions. We learned that human rule can never satisfy man's needs, for 'it does not belong to man who is walking even to direct his step.' (Jer. 10:23) Only the heavenly Kingdom government of Jehovah God can administer earth's affairs justly. Soon God's kingdom will replace the present corrupt system with a new one, 'in which righteousness is to dwell.' —2 Pet. 3:13.

"The God-given hope of a new system of things filled a big gap in our lives. We were thrilled, too, to find in the Christian witnesses of Jehovah an organization that governs itself by the Bible principles that will prevail in that new order. This has satisfied our thirst for justice for the past twenty-three years.

"Further satisfaction came into our lives when we decided to move to South America. Here we enjoy to the full the privilege of searching out and teaching 'meek ones' how

to live meaningful lives in anticipation of the coming blessings under God's kingdom. —Ps. 25:9.

"How thankful we are to have been spared the frustrations suffered by those who strive in vain to straighten out the present system of things!"

Happier with Less

Four years ago a family of eight rearranged their affairs to spend more time in helping others to learn the divine will. This has resulted in much personal satisfaction. The five eldest children now devote their full time to teaching the Word of God to others. What led this family to do this? The mother relates:

"After World War II my husband and I left Holland and moved to Canada seeking financial security. Our goal was to raise a family on a farm there. We viewed farming as the most natural way of life, and felt that a farm would be the best inheritance that we could pass on to our children.

"Things looked promising for a while; but the cost of living continued to go up, and our family grew more rapidly than our bank account. We wondered: Will we ever reach our goal or are we chasing after the wind?

"Then a great change came into our lives. By means of a Bible study with Jehovah's witnesses we learned that God's promised new system of things will become a reality within the present generation. This changed our entire outlook on life.

"We came to realize that it was no longer necessary to expend ourselves to build up a sizable material inheritance for our children. In the near future God will see to it that everyone has a comfortable home and sufficient food, along with true peace and security. Now the important thing is to get out and share with our neighbors the wonderful Bible truths that we have learned.

"Though our modest income affords us few of the world's goods, we are content having enough to eat, sufficient clothing, and a house in which to live. We have personally experienced that 'there is more happiness in giving than there is in receiving.'—Acts 20:35.

"No more do I feel bogged down with the innumerable household duties involved in caring for a large family. Our children willingly help with cooking, washing, and other domestic chores. This affords all of us time to share in the all-important activity of helping others to learn 'the truth that sets

people free,' that they, too, may enjoy a truly satisfying life."—John 8:32.

Is your life truly satisfying? Why not take steps to make it so by enjoying a free home Bible study with Jehovah's witnesses. Contact them locally or by writing to the publishers of this magazine.

LONG before the start of printing from movable type in Europe about the middle of the fifteenth century C.E., printing was being done in the Far East. Already by the end of the eighth century hundreds of thousands of impressions on paper had been made by means of wooden blocks.

It was in that century that the Japanese empress, Shotoku, ordered that a "million" Buddhist paper charms be printed. Though the printing was completed about 770, some of these charms still exist today.

No specimens of printing have survived from such an early date in China. But similar printing was done there. The year 868 is the earliest certain date of printing in that land. Testifying to this, as well as the high degree of development in the printing industry, is a complete book discovered in a walled-up chamber in a cave near Tunhuang, China.

Less than two hundred years later, printing with movable type was being done in China. The inventor of movable type was Pi Shêng. Shên Kua, a contemporary of Pi Shêng, writes:

"During the period Ch'ing-li [1041-1049 C.E.] Pi Shêng, a man in cotton cloth [i.e., a man of the common people], made also movable type. . . . If one were to print only two or three copies, this method would be neither convenient nor quick. But for printing hundreds or thousands of copies it was marvelously [literally, 'divinely'] quick."

Another Far Eastern land, where printing made great advances, was Korea. Toward the close of the tenth century the wood-block printing industry was developed there. During the reign of King Hyon-jong (1007-1031) the first edition of "Tripitaka Koreana," a collection of Buddhist sutras, was printed. The third edition of this work, issued on September 25, 1251, was printed from 81,137 wooden blocks, which contain a total of more than 52,000,000 characters, and took about sixteen years to prepare. It being estimated that ten characters would be

PRINTING

AN ANCIENT INDUSTRY of THE FAR EAST

a day's work for a modern carver, the job was indeed stupendous.

There are historical indications that about seventeen years before the issuing of the third edition of "Tripitaka Koreana" movable type began to be used in Korea. Then, in the year 1390, the king of Korea ordered the establishment of a type foundry. It was in this royal type foundry that the oldest metal type known today, the *kyemi* font, was cast. This was in the year 1403, several decades before Johann Gutenberg of Mainz, Germany, is thought to have invented movable type.

Though printing with movable type came into use in Eastern lands before it did in Europe, it did not become permanently established in the Far East nor is it known to have had any bearing on printing developments in Europe. The nonalphabetic writing systems of Chinese, Japanese and Korean were the primary obstacle in making printing from movable type truly economical and practical. The alphabetically written European languages, however, were ideally suited for printing from movable type. Hence, the invention of movable type in Europe had a more profound effect upon the intellectual enlightenment of peoples than did its earlier invention in the Far East.

OIL PROBLEMS



Shake the World's Economy

EARLIER this year, the Arab oil embargo against various Western nations was lifted, and a more normal flow of oil from North Africa and the Middle East resumed. Many people breathed a sigh of relief. They hoped that this would mean the end of oil shortages.

While the oil cutbacks ended, it was not the end of oil problems. There are related problems involving oil that may even overshadow the previous shortages. In fact, almost overnight, because of such problems, the world's economy has been thrown into turmoil.

The economic problems center on what has happened to the price of oil, especially since the Arab-Israeli war of October 1973. That price has quadrupled in recent times. The oil-producing lands of the Middle East and North Africa were the first to raise their prices sharply. Then other major oil producers followed, such as Indonesia, Nigeria and Venezuela.

What are the consequences of such higher-priced oil to a world that had based its economy on cheap oil? Are the results really catastrophic for some nations, as many authorities say? And is this all a plot by the oil companies to make more money?

A Conspiracy?

There are many people who think that the oil shortages and higher prices were

part of a conspiracy by the oil companies. In a poll taken by *Business Week* it was found that the American public's attitude had grown sharply skeptical. It reported that:

"62% believe oil companies held back supplies to raise prices

"68% are not satisfied with the industry's efforts to relieve it

"55% now doubt that the crisis is really a long-run problem."

One reason for the skepticism was that the oil companies reported huge profits in 1973 and early 1974, much higher than in 1972. This came at the very time when there were growing shortages, especially after the Arab embargo. Many persons reasoned that if the shortages were as bad as reported, then why the huge profits?

The oil companies answered that their profits only looked that high in 1973 and early 1974, percentagewise, because 1972 profits were unusually low. Also, they claimed that their profits were no higher in relation to their investment than those of many companies in other fields.

Regardless of how much truth there was in the claims and the counterclaims, in a period of shortage and public sacrifice the oil companies reaped a vast treasure. Yet, what was to be expected? In most countries, companies are not in business just to please the public. They are in business to make money, and this is permitted by most governments.

The profit motive is uppermost in the minds of those who run businesses in such societies. As an executive said to editorial writer Leonard Silk of the New York Times:

"When a business statesman makes public speeches, he has to talk in terms of social responsibility and long-term profit maximization, but the truth . . . is that he is a short-term profit maximizer."

This businessman was saying that company executives work for their company's interests. They want to make the greatest amount of profit in the shortest amount of time. That is what they are in business to do. The editorial also noted:

"Acceptance of this simple fact of life should spare one a great deal of moral indignation and surprise—surprise that after years of receiving huge tax breaks and oil import quotas allegedly to avoid a domestic oil shortage, there should be a horrendous domestic oil shortage."

No, in such societies there should be no surprise that oil companies, and others, do what they consider to be best for themselves. The fact that millions of ordinary people are inconvenienced and suffer is part of the system. It testifies clearly to the injustices built into the system when a problem can cause grief to so many, yet at the same time be very profitable for others.

Why Shortages?

Yet, in the United States there had been shortages of oil products even before the Arab oil embargo. Why did this happen? After all, the oil companies received favored treatment on taxes, and the competition of imported oil was limited. Should these facts not have been incentives to greater production, avoiding shortages?

The oil companies answer that the price of oil produced within the United States was kept too low by government regulation. This, it is said, did not allow the oil

companies to make the profits needed to warrant drilling enough new wells to increase production. Thus, in time, much less oil was produced in the country than was used. The rest, about a third of all requirements, came from imports. However, those imports were also regulated by the government to avoid undue competition.

Because of these factors, the oil companies claim, they were not assured of getting all the crude oil they would need within the United States. So for years they did not build any new refineries to process crude oil into gasoline, heating oil and other petroleum products.

Instead, much of the oil companies' profits were spent outside the United States where the return on their investments would be greater and the supply of crude oil more certain, it was thought. There would be no problem of demand, since Europe and Japan had seen a huge surge in the use of oil products in recent years.

Thus, domestic production and imports did not quite meet the rising demand inside the United States. That is why there were shortages of heating oil and gasoline even before the Arab oil embargo. The embargo late in 1973 merely made a troublesome situation worse.

The lifting of the embargo in 1974 relieved the worst shortages temporarily. But it did not really solve the supply problem, because the United States and many other countries use much more oil than they produce. And the demand for oil in those lands keeps growing. For the present and immediate future most of this increasing demand must be met by imports from the Middle East and Africa, where about 80 percent of the non-Communist world's proved oil reserves are located.

Dr. Wilson M. Laird, director of exploration for the American Petroleum Institute, says: "It doesn't take much of a mathematician to realize that we will be

forced to import huge volumes of oil until we can either develop more of our own oil and natural gas, or develop alternate energy sources." However, alternate sources are years away and will cost a vast fortune.

But while demand keeps growing faster than many officials anticipated, it is not at all certain that the supply will grow fast enough. Oil consultant Walter J. Levy writes in *Business Week*: "The oil-producing countries want to use the oil resources they have to develop future industrial and economic basis independent of dwindling oil reserves. However rich the reserves are, they are limited."

Hence, the 130,000-member American Association for the Advancement of Science warns that energy problems are 'serious and enduring.'

The Other Worry

While getting enough oil is a major worry, especially for the highly industrialized nations, there is another. It is the price that they will have to pay for oil products.

The price of oil quadrupled on world markets, resulting in price increases for all oil-based products. While prices may fluctuate, even going lower at times, there is no hope of their returning to the very cheap cost of years gone by. What that means was described by a petroleum research engineer who said: "There is not going to be any more low-cost energy. You have to accept the truth of the situation." And economist Paul A. Samuelson warned: "The prices we now pay for gasoline may seem high, but they are not yet adjusted to anything like the world price level for oil." In most countries gasoline prices had already jumped sharply since last year.

Yes, the consensus is that the age of cheap energy has ended. *Harper's* magazine reports:

"Historians may see 1973 as a year dividing one age from another. The nature of the changes in store for us is symbolized by the Shah of Iran's announcement last December that the price of his country's oil would thenceforth be \$11.87 per barrel . . .

"The Shah accompanied his announcement with a blunt warning to the industrialized nations that the cheap and abundant energy 'party' was over. From now on, the resource on which our whole civilization depends would be scarce [and costly]."

World's Economy Changed

The higher oil prices have shocked the oil-hungry nations. Many regard it as a greater problem than shortages. *The Wall Street Journal* observed:

"The biggest problem, though, isn't shortages but the skyrocketing prices for oil and oil-related products. Such increases are going to be a strain for all consuming nations—and even more so, of course, for those with weak finances."

The additional cost of oil for the importing nations is truly staggering. Gerald A. Pollack, an official of the huge multinational Exxon oil company, says, in *Foreign Affairs*, that for Europe, the United States and Japan "oil imports this year may be nearly \$50 billion more than in 1973." He notes that by 1985 the cost to those nations would approach \$150 billion more than in 1973.

The oil-producing nations will reap vastly higher incomes from the increased prices. They may have *surplus* oil incomes of 50 to 60 billion dollars in 1974 alone; some put the figure higher. Exxon official Pollack feels that these nations could accumulate about \$500 billion in surplus funds by 1980. He adds: "These magnitudes would seem to be enough to scuttle any monetary system."

That is why a financial expert called the oil price rise "the most profound economic development of the post-World War II pe-

riod." And Chancellor Helmut Schmidt of the Federal Republic of Germany said: "No matter what action the industrialized countries may take to wipe out balance-of-payments current-account deficits, the fundamental problem as such will remain unsolved. A process of shifts in patterns of income has been set in motion on a huge scale."

The higher oil prices threaten the very existence of the poor nations. Statisticians of the United Nations estimate that even the poor countries will have to pay about \$14 billion more in 1974 for the oil they use. That extra money will have to be diverted from other necessary things, such as farm equipment, food, fertilizer and consumer goods.

Do the world's leaders have solutions for the enormous problems arising from price inflation, particularly of oil products? Chancellor Schmidt said:

"It would be wrong, of course, to believe that the oil price explosion was the only cause of instability. But the massive increase in oil prices has clearly revealed the actual fragility of this elaborate system of economic relations among the nations of the world, from the structure of their balance of payments to their trade policy. . . .

"Oil has shaken the very foundations of the present world economic system. . . . oil may shatter the laboriously built structure of the world economy."

In *Harper's* magazine, author William Ophuls, commenting on the inability of governments to cope with these new developments, says: "The political system inherited from our forefathers is moribund

[dying]. We have come to the final act of the tragedy."

It becomes more and more apparent that the present system of things now dominating the earth is not able to handle mankind's problems. What is needed is an entirely new system, one that will not be ripped apart by greedy commercialism and divisive nationalism. Who can provide such a new order? Surely not human leaders, for they have tried and their failures are apparent to all.

Only the Creator of man and this earth can construct such a new order for mankind. And God's inspired Word, the Holy Bible, foretells such a new arrangement, calling it a 'new heavens and a new earth in which righteousness is to dwell.' (2 Pet. 3:13) The "new heavens" means a new government for all the earth, operating from heaven under God's direction and in the hands of his tried and trusted Executive Officer, Christ Jesus. The "new earth" means a new human society.

That heavenly kingdom of God will usher in a new system for controlling and distributing earth's plentiful resources. It will not work to the advantage of some and at the expense of others, for "when there are judgments from [God] for the earth, righteousness is what the inhabitants of the productive land will certainly learn." (Isa. 26:9) Nor will such a new order be a long time in coming, for Bible prophecy clearly shows that the present corrupt system of things now managing earth's affairs is near its end.—2 Tim. 3:1-5.

Waves of Energy

- Ocean waves have tremendous amounts of energy. After waves on the coast of Scotland broke loose and moved a cemented stone weighing 1,350 tons, it was replaced with a pier weighing 2,600 tons. But some years later that, too, was carried away by the waves.

"What Did I Say This Time?"

MOST of us take for granted the language we speak. If we need something, we ask for it; when we are explaining or describing, the words are not hard to find.

However, missionaries struggling to learn a new language in a foreign land find themselves in an entirely different set of circumstances, and composing even the simplest sentence can result in pitfalls.

Fortunately, the Latin people are generally very polite to the newcomer. So when he makes a mistake, they try not to laugh. Even so, they often cannot prevent a smile from 'letting the cat out of the bag.' At times like this the question that comes to one's mind is, "What did I say this time?"

I have had my share of educating experiences. My wife and I had been in Peru for several weeks before our belongings arrived by ship. When we went to the terminal to identify the items, we were greeted by several customs officials. We certainly wanted to make a favorable impression, and I was eager to show how well I was progressing with the language. In the course of the conversation one official, who was especially polite and friendly, asked me, I thought, how many years I had (*¿Cuántos años tiene?*). Since this is the Spanish way of asking, "How old are you?" I felt that here was my chance to show him that I was onto this strange sentence structure. When I saw the by-now-familiar twinkle in his eyes I knew that somewhere along the way I had missed something. What he had really asked was how many children I had (*¿Cuántos niños tiene?*), and, yes, I had really told him I had twenty-eight and my wife had twenty-nine.

After an outing to the beach, I was explaining to a friend that because I had been wearing sandals I could not participate in the *fútbol* game, which is similar to soccer in the United States. When I said that I was wearing *sandías* I noticed that he had a rather puzzled expression at first, and then his eyes started to shine, and he said, "Oh, you mean *sandalias*." Not being content to let well enough alone, I asked what *sandías* were. He seemed quite reluctant to tell me, but finally said they were a type of fruit.

"Oh," I asked, "what type of fruit?"

"Well, they are green and more or less round, and . . ."

After a little more description I realized what fruit he meant. Can you imagine playing soccer wearing watermelons?

However, when I am licking my wounds after some spectacular blunder, I often find solace in reviewing some of the other missionaries' unfortunate manipulations of words.

There are several common errors that almost everyone will commit sooner or later. One repeated many times by new missionaries concerns the word for "sin." As a result, many have asked God in prayer to help them to overcome their fish (*pescados*) instead of their sins (*pecados*).

And pity the poor missionary perplexed by "*casado*," which means "married," and "*can-sado*," which means "tired." So it is that a Latin Witness innocently asked a missionary girl if she were married. Thinking his question was, "Are you tired?" her equally innocent reply was, "Only in the evenings."

People in South America are usually interested in others and eager to be of help. Yet, one girl was surprised to see just how concerned they can be. As she sat down on a rather weak chair it suddenly collapsed. Sitting on the floor, she tearfully cried out, "I'm so embarrassed!" (*¡Me siento tan abochornada!*)—or, so she thought. Immediately everyone became extra attentive and helpful. It was not until later that she discovered what she really had said was, "I'm pregnant!" (*¡Estoy embarazada!*)

In spite of these fumbings and blunders, Jehovah has blessed the efforts of the missionaries in Peru. Because of their willing spirit, others have been aided to learn God's loving purpose for mankind. One missionary said that she had so many problems in speaking Spanish when she arrived that on her first Bible study the householder had to read the question, answer it, and then read the paragraph. Nonetheless, this woman is now a dedicated, baptized publisher of God's kingdom.

Though there have been moments of groping for words and sometimes later wishing they had not been found after all, we have found that by having a sense of humor and not being afraid to laugh at ourselves a little, we can even enjoy our rather amusing errors. Certainly, we have gathered a vast collection of heart-warming memories.—Contributed.

HAVE you ever eaten at a Japanese restaurant? If so, you may have eaten *sukiyaki*, a dish that includes small pieces of beef along with vegetables, or *tempura*, which is breaded meats and vegetables that are fried. But did you know that in Japan we seldom eat these dishes, except in restaurants? It reminds one of Chinese *chop suey*, which is not a typical dish of that country either.

What, then, do we Japanese people in Japan usually eat on an everyday basis? And how do we prepare this food?

A Japanese Breakfast

Our main dish in the morning is hot, steaming, fluffy rice. Along with this we have *miso* soup, as important to the Japanese diet as rice. To round off our breakfast, we may have several types of pickled radish, known as *tsukemono*, and green tea. Also, many families will enjoy a side dish of baked fish. Now, would you not say that this is a nourishing meal with which to start off the day?

Of course, the preparation of the rice is what makes the meal appetizing. Japanese rice is practically always soaked before it is cooked. In fact, the last thing a Japanese housewife will do before she goes to bed is wash the rice for the next morning and leave it to soak overnight.

Most modern Japanese housewives have electric rice cookers. These indicate the amount of rice and water to add, and they automatically turn off when the rice is finished. However, many Japanese housewives still use a pot with a heavy lid that will not come off when the rice boils. For

Please Your Palate

THE JAPANESE WAY



By "Awake!" correspondent in Japan

our family of five, I use three and three-quarters cups of rice.

I cook the rice in about four cups of water. If softer rice is desired, more water is added; for harder rice, add less water. After the rice and water are brought to a boil, the heat is lowered, and the rice is allowed to simmer about twenty minutes until all the water is absorbed. In the middle of cooking it is a good idea to turn the pan several times so that the rice is cooked evenly. Now the heat is turned off, and, without removing the lid, the rice is allowed to steam for ten to fifteen minutes. It is now ready to eat.

The base for *miso* soup is made from soybeans, wheat or rice, and salt. This mixture is put into a wooden tub to ferment, forming a thick paste.

To make the soup, we first prepare a broth, either from dried fish or from dried

seaweed. Then we add some of this *miso* paste to the broth. While the soup is good this way, some like it better when a sliced radish or onion or perhaps fish is added. As the Japanese diet is quite starchy, this *miso* soup provides the vitamins needed to keep us healthy. *Miso* soup is so popular in Japan that there are some restaurants here that sell only this soup.

Typical Lunches

For lunch, frequently the rice left over from breakfast is packed into a small box, or *bento*. A few pickles, some leftover bits of meat and vegetables may be put on top of it. This makes a fine take-with-you box lunch.

For lunch at home, I may make *ocha-zuke*. All that I do is pour hot green tea on the leftover rice. The Japanese love the taste of this green tea and rice together. It is a warm dish in the winter, and when a person prefers to eat lightly in the summertime, it is quite delicious.

As you can see, the average Japanese family eats lots of rice, usually for breakfast, lunch and supper. And Japanese cooks have developed some unique ways of preparing it too.

"Sushi," a Popular Dish

Sushi can best be described as seasoned rice that is shaped. In a large bowl, we place about six cups of cooked rice. In a small bowl, we mix together a half cup of vinegar, two and a half teaspoons of salt and three tablespoons of sugar. The vinegar mixture is added little by little to the rice while, at the same time, a wooden spoon or spatula is used to mix it into the rice with a cutting motion. At this time it is a good idea to fan the rice to cool it so it will be easy to handle.

Now, when it is cool enough, the hands are wet with the remaining vinegar mixture, and a handful of rice is taken up in

one hand. Then, with the other hand's index and middle fingers, the rice is molded into an oblong shape. If the rice is not too cold, it should stick together nicely.

Placing a dab of green horseradish and a thin slice of one's favorite raw fish on top of the shaped rice completes this type of *sushi*. There are many different types of raw seafood used in making *sushi*, including tuna, shrimp, octopus and squid.

Sushi must be dipped in soy sauce and eaten with green tea to be really tasty. The inexperienced one eating *sushi* may find that it takes two or three bites to finish off just one *sushi*. So a person may be surprised to see even the most dainty Japanese lady stuffing a whole *sushi* into her mouth with chopsticks and still managing to carry on a conversation.

Another popular type of *sushi* is made by rolling the rice in a sheet of dried seaweed, with a strip of pickled radish or raw cucumber in the middle. These "rice rolls" are then sliced and arranged on a plate with the cut side up.

It requires an expert to prepare *sushi* properly. Therefore, many families here have their favorite *sushi* shop, where they call at almost any time and order fresh *sushi* delivered to their door. Among Japanese, young and old alike, *sushi* is a favorite.

Typically Japanese Foods

Seaweed is a very basic taste in our Japanese cooking, and is often part of the daily diet in one form or another. It is generally dried and used as a base for delicious soups, or is used in making a variety of rolled *sushi*.

Also, fish is usually served every day in one way or another. Since our country is surrounded on all sides by the sea, one can understand the prominence of seafood in the Japanese diet. Various types of fish

are dried and used in making soups, or held over a flame until crispy brown.

Raw fish is especially delicious, at least to our taste. The average family will buy sliced fresh fish from the nearby fish market. The fish is generally dipped in soy sauce and seasoned with horseradish. Some of the more common types are carp, tuna, bonito, and flatfish.

When some persons first think of eating raw fish, it may not sound appetizing. However, when the fish is seen attractively arranged on a platter, thinly sliced and accompanied by a pretty array of vegetables, it becomes quite appealing, even to one who may not have tried it before.

While rice is basic in our diet, there are also several types of noodles that are popular among Japanese. These are cooked briefly in a soup made from soy sauce, sweet rice wine, and with perhaps a few vegetables added. The soup is served in a bowl, and is eaten with chopsticks. Some seem to feel that the noodles are much tastier when they are eaten with great speed and a slurping noise.

The outstanding flavoring in Japanese cooking is soy sauce, often with sugar added. Soy sauce improves the taste of the food and, being made from soybeans, wheat and salt, has much nutritional value. Foods cooked in soy sauce with sugar added can be preserved longer than foods cooked in just soy sauce.

Preparation for Supper

Most Japanese housewives buy their food fresh every day. So around 4 p.m. the housewife will stop whatever she may be doing, pick up her market basket and money, and without even taking off her apron, set off for the nearest vegetable and fish markets. She will often go to several different shops, where vegetables may be reasonably priced. Many housewives

prefer the small shops to the modern supermarkets.

Back at home, a high-pitched sound may be heard getting louder and louder. Sure enough, here comes a man blowing a horn as he peddles his bicycle. His rickety bicycle is piled so high with trays that one would think he was in danger of tipping over. He brings to the doorstep an important item in Japanese food—*tofu*, or bean-curd cake. It may be described as a soybean jello, a fine addition to an evening meal.

In the kitchen, the meal is prepared simply, but with attention to making it appealing to the eye.

The Main Meal of the Day

The morning and noon meals are usually rather light; however, the evening meal is the one to which everyone looks forward. It is a time for our family to spend some time together, discussing the day's activities. At this meal we eat slowly, really savoring the flavor. And, for many Japanese men, it is a time to enjoy some *sake* or rice wine.

As the family waits, the table begins to fill up with each person's assortment of small bowls, saucers and plates. What is in all these dishes?

One small bowl holds hot, steaming rice; another has the *miso* soup. There is a small bowl containing boiled seaweed, with a dressing of *miso* paste and tiny whole fish. Another plate holds several varieties of pickled radish; still another has *tofu*. Also, there is a plate with dried and baked fish, complete with heads, eyes and tails. As a special treat, there is a platter of raw fish, sliced octopus and squid—all delicacies for the evening meal.

The table becomes crowded, but the family keeps adjusting and readjusting the bowls until they all fit. Here is a tiny

saucer for the soy sauce, which is a *must* at all meals, and for each one there is a small handleless cup for green tea. It can be a real delight to eat from a number of bowls, taking a bite here and there, and flavoring everything with a mouthful of rice and a sip of tea.

A Japanese Speciality

A Japanese speciality is *nabe ryori*, or "cooking in a pot." The cooking is done in a pot or pan on a burner in the center of the table. Vegetables and meat are cooked in a broth, and everyone takes from the one pot with his or her own chopsticks.

One kind of *nabe ryori* is called *mizutaki*. To make it, we use a widemouthed cooking pot about six inches deep. In the pot, we first make a stock from fried seaweed, dried tunny fish, or from either fresh or dried mushrooms. If these are not available, bouillon will serve the purpose. The stock should not have a strong flavor or it will override the flavor of the vegetables to be added later. Salt may be added.

Vegetables commonly used are Chinese cabbage, either round or long green onions, long or round mushrooms, and any type of green vegetable that will cook

quickly, such as raw spinach. If it is available, *tofu* is added. Thinly sliced meat, such as pork, beef or chicken, even white fish, can also be used. All the vegetables and meat should be cut and arranged attractively on platters.

When the stock is boiling, some of each type of vegetable and meat is added in an eye-appealing way. Then when something is cooked to one's liking, it is taken from the pot with one's chopsticks, and the hostess adds some more vegetables to take its place. In this way there is a continuous pot of boiling meat and vegetables. The steaming-hot vegetables and meat are dipped into a mixture of soy sauce, lemon juice or vinegar and grated radish. What a relaxing and enjoyable way to eat! At least we here in Japan think so.

However, regardless of what country one lives in or what type of cooking one may prefer, there is one element important to good cooking everywhere. This is *love*, which motivates one to want to prepare something delicious and nutritious for one's family. Perhaps sometime out of love you will want to try pleasing your family's palates the Japanese way. If you try, you may find they will like it.

Can Salt Stop Being "Salty"?

■ It would seem strange for salt to lose its saltiness, but it can happen. In the Sermon on the Mount, Jesus Christ said: "You are the salt of the earth; but if the salt loses its strength, how will its saltiness be restored? It is no longer usable for anything but to be thrown outside to be trampled on by men."—Matt. 5:13.

While it is true that the salt used in most countries today is a chemical compound, so that if you removed the saltiness, there would be nothing remaining, note what Bible commentator Albert Barnes says on this matter: "In eastern countries, however, the salt used was impure, mingled with vegetable and earthy substances; so that it might lose the whole of its saltiness, and a considerable quantity of earthy matter remain. This was good for nothing, except that it was used, as it is said, to place in paths, or walks, as we use gravel. . . . It is found in the earth in veins or layers, and when exposed to the sun and rain, loses its saltiness entirely."

Are You

'THINKING METRIC'?

A STRANGE question? Perhaps for some persons, but not for all. About 90 percent of earth's inhabitants "think metric." Scientists, technicians, housewives, farmers, bakers, butchers—millions in all walks of life—regularly use metric weights and measures to designate and compute lengths, weights and other values.

Today a mere handful of nations—among them Burma, Sierra Leone and the United States of America—still cling to other means of measurement. Of the major industrialized countries, the United States alone uses the Customary or English system of weights and measures. But even England is well along in its ten-year program of switching to metric—"metrication," if you prefer. Through education, posters and the like, the British are being urged to "think metric," instead of mentally converting Customary units to metric measures. Britain's target date for conversion? 1975.

Will the United States 'Go Metric'?

Since World War II such industrial lands as Japan have 'gone metric.' The general consensus is that it will be only a matter of time before the United States makes the switch too. Why? Mainly because the country will lose foreign markets if it does not change to the metric system. After all, a nation using metric itself is more likely to trade with countries exporting metric products. Why purchase items based on Customary measurements and then encounter expensive parts

and repair difficulties? As it is, according to certain studies, the United States is losing up to \$600,000,000 yearly in potential exports because it adheres to the Customary system.

Some major United States firms already are 'thinking metric'—at least to an extent. For instance, the first domestically built metric engine is being produced at the Ford Motor Company's automotive plant in Lima, Ohio. Certain corporations are manufacturing both metrical and non-metrical products. In fact, United States residents in general are 'thinking metric' more than they may realize. Doctors write prescriptions in metric quantities. At the drugstore one may purchase pharmaceutical preparations weighed out in grams and milligrams. Metric terms are used for camera lenses. Frequency of radio waves is measured in kilocycles; electrical power, in kilowatts.

Talk about metrication is nothing new in the United States. In 1821 John Quincy Adams, then Secretary of State, made a report to Congress in which one suggestion was "To adopt, in all its essential parts, the new French [metric] system of weights and measures . . ." As early as 1866, Congress passed a bill legalizing nationwide use of the metric system. The United States was among the first nations to ratify the 1875 Treaty of the Meter, and since 1893 such Customary units as the yard and pound have been defined as fractions of metric standards.

In 1968 the United States Congress au-

thorized a study of the metric system. Three years, twelve volumes and \$2,500,000 later the results were summarized in the very title of the final report to Congress, "A Metric America—A Decision Whose Time Has Come."

Advocates of metric conversion cite such factors as the system's simplicity and the trade advantages. Among other things, opponents say that the switch would be too costly; because of the problem of financing such a change, the proposition recently experienced a sharp setback in the U.S. House of Representatives. Others contend that it would be a great burden for workers now using the Customary system. But retraining has not been as difficult as some have expected. Among the public there also may be some resistance to change. Granted, a young lady with a 20-inch waist may not think that 50.8 centimeters makes her seem so petite! But, like others, probably she can adjust her thinking. Since so many already use the metric system and millions more are likely to begin 'thinking metric,' suppose we give it more careful consideration.

Development of the Metric System

The metric system had its start in France. During the turbulent days of the French Revolution, the National Assembly directed the Paris Academy of Sciences to Develop an invariable standard for all weights and measures to replace the diverse units then employed throughout the land. For that matter, the many nations had varying weights and measures, all hampering scientific and other communication. The Academy devised a relatively simple and consistent system. In it the meter, a fraction of earth's circumference, was the unit of length. Other elements of the system were based on it. For example, the gram was equal to the mass of a cubic centimeter of water at its temperature of greatest density.

Necessary studies, surveys and measurements

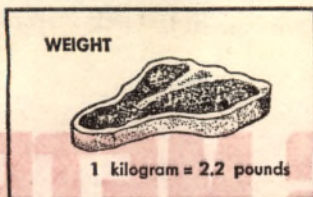
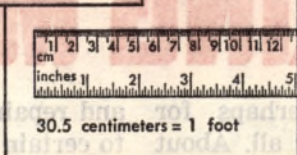
spread over several years. Not until 1799 were metric standards legally adopted in France. Actually, old weights and measures continued in use throughout the country for

years. By legislation enacted on July 4, 1837, the use of nonmetric units was forbidden after January 1, 1840. In time, other nations began using the metric system, until finally the majority had adopted it.

Through the years there have been refinements, and in 1960 the General Conference of Weights and Measures resolved minor differences in the use of metric measurements by various countries. From this emerged the International Metric System, sometimes referred to as SI (*Système International d'Unités*).

A Closer Look

The metric system is named after its principal unit of length. That is the meter, derived from the Greek word *me'tron*, meaning a measure. And how long is a meter? As determined originally, it is one ten-millionths of the distance between the North Pole and the earth's Equator, measured along the meridian from Barcelona, Spain, to Dunkirk, France. Perhaps you really want to get technical. Well, according to present internationally accepted standards, the meter



is defined as 1,650,763.73 wavelengths of the orange-red light from krypton-86 (an isotope of the inert gaseous element krypton) as measured in a vacuum. But those using the Customary system will find it much easier to think of the unit of length that they call a yard, and then add three and a third inches. Whereas the yard is 36 inches long, the meter is 39.37 inches in length.

Today's metric system has six base units. For the unit of length, there is the *meter*. That of mass (commonly termed "weight") is the *kilogram*. In the case of temperature it is the *kelvin* (translated into degrees Celsius, formerly centigrade). The time unit is the *second*. For electric current we have the *ampere*. And the *candela* is the unit of luminous intensity. Of course, the system includes other units, such as that for speed, but all are derived from the base units just mentioned. Incidentally, the *second*, *ampere* and *candela* are used in the Customary system too.

One feature of the metric system is its simplicity. When you are 'thinking metric' ten is the basic number to remember, for you are using a decimal system. Start with a base unit. Then either divide or multiply by ten. To designate resulting quantities, just add standard prefixes. Suppose we try this, and please notice the prefixes.

10 milligrams = 1 centigram
10 centigrams = 1 decigram
10 decigrams = 1 gram
10 grams = 1 decagram
10 decagrams = 1 hectogram
10 hectograms = 1 kilogram
10 kilograms = 1 myriagram

Since metric is a decimal system, on paper you can make quick calculations merely by moving the decimal point.

Will the Whole World 'Go Metric'?

Man was weighing and measuring things thousands of years before metric came

along. Step back well over five millennia and take Tubal-cain as an example. You never heard of him? Well, the Bible says he was "the forger of every sort of tool of copper and iron." (Gen. 4:17-22) Perhaps he founded such an occupation. At least he was prominent in it. Surely Tubal-cain weighed out the materials he used. Doubtless he also made some linear and other measurements. Of course, he was not 'thinking metric.' Yet, who can say that his method of computing weights and measures was unsatisfactory for what he needed?

Parts of the human body figured prominently in ancient systems of measurement. To illustrate: Among the Hebrews there was the "handbreadth," a linear measure about equal to the width of the adult hand at the base of the fingers. (Ex. 37:12) Both the Greeks and the Romans had a length unit called a foot—and it was about as long as a man's foot too. The Romans divided this unit into twelve parts called *uncia*, or "inches."

The Customary system is made up largely of old weights and measures that are not based on any single unit. For instance, one must remember that there are three feet to a yard and 5,280 feet in a mile. He has to learn that there are sixteen ounces in a pint, thirty-two in a quart, and four quarts to a gallon of milk. However, all this does not make the Customary system unsatisfactory. After all, it has been used successfully by masons, maids, carpenters, cooks, machinists—millions of people—even though it has given them a good deal of mental exercise. But the metric system does have advantages, particularly if the one system is used by people everywhere.

What does the future hold in store for the metric system? Will it spread until the whole world has 'gone metric'? Only time will tell how extensively the system will be used.

Meeting THE LARGEST OF THE GREAT APES

By "Awake!" correspondent in Zaïre

"NOW remember, when he charges just stand perfectly still. He will come out of the brush suddenly with a loud scream, crashing violently through the tangled undergrowth. He will stop a few feet away from us. Then he will stand up, beat his chest and roar furiously. Don't move! Keep silent. It's only a bluff charge that he makes toward human intruders."

"Don't move!" Our guide's words kept echoing through our thoughts as we tramped through the dense forests of the eastern part of Zaïre, formerly the Belgian Congo. How would we react upon coming face to face with one of nature's most formidable-looking animals, the mountain gorilla, largest of the apes? His strength is said to be fifteen times that of man! How would my wife react? And what of the others in our party of six?

Our guide and his pygmy trackers had become very familiar with these rare and powerful animals. They had made many trips high into these jungle homelands of the gorilla, the pygmies having even hunted them for food when necessary. The apes had never followed through on their mock attack—yet. They always stopped a few feet away.

Although more than a hundred years have passed since the first white explorers penetrated gorilla country, only in the past two decades have intense scientific studies been made. The great apes are classified among the world's rarest animals, found only in a few regions of Central Africa. The home of the largest of the great apes lies in rain forests of mountains that strad-



dle the borders of the Republic of Zaïre, western Uganda and Rwanda.

A Gentle Nature

As we tramp farther into their territory we remind ourselves that gorillas are not normally aggressive. While this animal could easily tear a man from limb to limb, beneath his fierce appearance lies a shy and gentle, even introverted, nature. He has occasionally wandered down to the edge of a tea or coffee plantation and scared off the workers. However, a gorilla will not normally carry people off, or even hurt a human, unless molested or attacked. That is encouraging, but could we believe it?

We recall that gorillas travel in family groups, from a few individuals to several dozen. Each family has its leader toward whom the members will demonstrate affection and loyalty. What he does will de-

termine the actions of the whole group. The leader generally is a male over ten years of age, and is distinguished by his silver-colored back contrasting with the iron-gray-colored hair on the rest of his body.

At maturity the great ape is enormous. His massive body weighs up to 450 pounds and he stands maybe five and a half feet tall. His gigantic arms may span eight feet! What a contrast to the three- to four-pound baby he was when born! His development is very rapid, about twice as fast as that of man.

A great ape may live to the ripe old age of thirty or even thirty-five. Does he really stand and walk around like a man? No, he is quadrupedal, usually going on all fours, moving in an intriguing half-swinging, half-jumping motion. His arms serve mainly as crutches, with the weight of his body being supported by calloused, flexed knuckles.

We knew that our presence would elicit chest-beating displays and maybe that frightening mock attack, and that this would be his way of warning his family of approaching danger as well as to intimidate us human intruders. Nevertheless, we pressed on into their domain along the trail they had made the previous day.

Always on the Move

Hiking through the jungle tracking gorillas is an unforgettable experience. Gorillas live like nomads, wandering through the forest in search for food, never spending two nights in the same place; but they restrict their movements to definite boundaries, staying within an area of about fifteen to twenty square miles. Though they may travel up to ten miles a day, depending on the availability of food, their trail is not difficult to pick up. They move in single file, crushing vegetation, breaking

branches, partially eating food plants, and leaving behind other signs that remain conspicuous for many days.

But wait! All of a sudden the leading pygmy cries, "Angalia!" We have learned that this Swahili word means, "Look here!" What did he see? He has found the camp where the group slept last night! At dusk the day before, each member had built a recognizable nest of leaves and twigs. To construct his bed, each animal had evidently stood in a central position where leafy branches were available, pulling in and breaking off the vegetation, placing it around his body in a fairly orderly heap and plunking himself down in the middle of it. Here is where they slept from about 6 p.m. to 6 a.m.—twelve hours.

We counted nineteen beds, including those made by youngsters. In this family everybody made his own bed. A few gorillas had built beds in forks and branches of trees, hammock style, building with heavier branches to bear the weight of the animal. One was thirty feet above the ground. While the nests told us much about the group, there was no obvious pattern or arrangement such as for warmth or protection, nor would they do any good against wind or rain or bad weather conditions. They were merely comfortable heaps.

What Do Gorillas Eat?

Shortly after daybreak (which is 6 a.m. all year round here in the tropics) they gradually abandon their beds and start their two-hour breakfast, leisurely moving from snack to snack. Some may start breakfast in bed. Preparation of food is unnecessary. Gorillas simply reach out and grab a handful of vegetation. When they have finished one patch, they move over a few steps to the next.

The gorilla never kills for food. At his worst he may raid a cultivated banana patch. Having never been observed to eat meat in the wild, unlike his kin the chimpanzee, this peaceful vegetarian subsists on a diet of roots, leaves, young shoots and fruit. A favorite with him is stripping and biting off the bark of young branches to get at the more tender inner part. As rain is plentiful and morning dew lies heavily on the already succulent foods, one will not find gorillas stopping for a drink of water from a lake or stream.

The gorilla's diet is anything but monotonous, with at least a hundred varieties of plants to choose from. After breakfast these great apes may lounge around until mid-morning; then they strike out again in their search for food. In this respect gorillas are like gibbons and chimpanzees.

The Encounter

As we get closer, we see many telltale signs that our first encounter with the group is near. A pungent odor is in the air. The pygmy ahead motions us to remain still. We had been warned that the gorilla's vision is acute and that he is quick in spotting slight movements. We creep along quietly, but branches snap under our feet. Our hearts beat wildly. Suddenly, just ahead of us in the dense bush comes a terrifying, high-pitched shriek, a chilling sound, then the rustling of the troop as they flee away from us into the forest.

For a moment the only sound that I heard was my own heartbeat. Then he appeared. On all fours the silverback leader came crashing through the jungle, sweeping aside everything in his way, bounding toward us! Shoulders three feet apart supported a thick neck, and that famous black face with heavy brows. The ape charged to within eight feet of us! Then he stopped short.

It is difficult to say whether we stood motionless in obedience to our guide's previous instructions or whether we were simply frozen in our tracks. But there we stood, looking at the beast's massive head, which seemed to sit directly on his two shoulders, both jaws sticking out conspicuously, and with those huge nostrils opening directly forward. Then he raised himself erect and started beating his chest and roaring, exposing his teeth and the whole interior of his mouth.

Up to this point I had always imagined a gorilla's teeth to be sparkling white. From that brown-tartar discoloration it was obvious he did not brush well. The high-pitched roars of the great ape are probably the most explosive sound in the animal kingdom. If this roaring was intended to intimidate, it certainly worked well on us.

In no uncertain terms he was letting us know that we should come no closer to his family. For a moment he just stood and stared at us with his sharp, dark-brown eyes, and we could see clearly his hairless lips, ears and nose. His small black ears resembled those of a human. We glanced at our guide and noticed him chewing a leaf, a gesture of reassurance for Mr. Silverback.

The Curiosity Is Mutual

Observing a captive gorilla in a North American or European zoo is one thing. Meeting a family of them on their own home ground is quite another thing. We could see mothers carrying their infants, holding them tightly to the chest with one arm. Other youngsters were riding on mother's ideally suited broad, flat back with plenty of hair to hold onto. Not much danger of slipping there! To the left, some fifty feet away, three youngsters were en-

joying a frolic and playing a game that looked like follow-the-leader. The older gorillas were tolerating them, though themselves showing no signs of wanting to play.

It was evident that curiosity was one of the main reasons why they remained. They obviously wanted to look at us as much as we wanted to observe them. However, they had the advantage, staying behind a light screen of leaves.

Sixty feet away a large black male started climbing a tree, presumably to get a better look at us. His climb was cautious, as he placed his hands carefully and firmly on the tree, at the same time giving us an occasional glance. We watched intently, hoping that no weak or dead branches would break beneath his heavy body. Gorillas have been known to get hurt when weaker branches have broken under them. Once at the top he resumed his occupation of sitting and watching us with keen interest, and eating, breaking off branches and stuffing the leaves into his mouth. After an hour and a half he climbed down, feet first, with his chest toward the trunk of the tree.

A light rain began to fall, but only we humans seemed to notice it. Our guide pointed out a female who quickly moved her hand up a shrub to collect the leaves all in one action and then pushed them all at once into her mouth. Yet another, who looked as if someone had given him a crew cut, carefully bent a stem toward him, broke it and started chewing off the bark and wood to get at the center, much as we would eat corn on the cob. Two others sat grooming themselves on the arms and shoulders, also grooming each other.

A dark-brown ape with longer-than-usual hair looked our way for a couple

of minutes, motionless, then suddenly reached out and with a quick twist decapitated a young tree, pushing the leafy top into his mouth. Still another demonstrated how well he could manipulate his fingers by peeling off layers of a tender shoot, the way we might peel a banana. With the exception of a few intermittent barks in rapid succession and some tension-releasing chest beats, together with a sort of grumbling and grunting of contented animals, the group was generally quiet and calm while going about their daily routine.

A Rewarding Experience

It was now getting late and we had ahead of us a four-mile descent of the misty slopes of Mount Kahuzi to the tea plantation where we had left our vehicle. We reflected on the fine experience that we had enjoyed.

Gorillas share their forest with numerous other animals, but the great ape has few enemies. Most are frightened off by its loud roars. Without doubt the greatest predator of apes is man himself. While they suffer from diseases that may kill off as many as 40 to 50 percent of those born, many are killed off by natives for food. In the Republic of Zaire, Kivu Region, a determined effort is being made in a fairly well-protected park system to perpetuate their existence.

This largest of the apes is of particular interest to persons who may believe in evolution, but these apes do nothing to uphold that theory. Our brief, close-range observations in their mountain home have added even more to our appreciation of these animals as being an unusual and distinct part of Jehovah's creation. The similarities they may have to humans are simply because we all have a common Designer.

THE ART OF

Musical Improvisation



NOT long ago, a famous Belgian pianist sat down at a concert grand piano in Guatemala City's National Conservatory of Music. He was about to present the second half of his scheduled recital before a large audience. Rather than beginning with some recognizable selection from a standard repertoire, however, he invited those assembled to give him any group of five or six different tones, or less. Certain ones were asked to say in whose style they wished to hear him play the notes. Did they prefer that of Beethoven, Chopin or Debussy? And, in what tempo? How about a waltz? A march? Or, a minuet? The pianist responded by creating excellent impromptu music in the styles requested. It was obvious that he was a master of musical improvisation.

This art of extempore composition is not the exclusive possession of any single nation, people or tribe. Instead, mankind as a whole has enjoyed it through the centuries. In fact, the music of India and southeast Asia nearly always is improvisatory. It is "the creation of the performing musician in that moment and almost never the interpretive rendering of another's recorded composition," says Faubion Bowers in his book *Theatre in the East*. This music is different from that common in the

West, for it is without harmony. The emphasis is on the melodic line and the ways it may be ornamented. Then, too, there is the highly rhythmic music of Africa, with its very complicated counterrhythms. Just listen. The element of improvisation unmistakably is present.

In Europe, especially during the seventeenth through nineteenth centuries, musical improvisation was highly developed in the hands of master composers. Take Beethoven as an example. Says the *Oxford Companion to Music*: "With paper before him he was one of the slowest and most laborious composers who ever lived, but with his fingers on the instrument he dashed away. His pupil Czerny says of him: 'His improvisations were most beautiful and striking.'"

It is said that Handel "wrote as one speaks, he composed as one breathes. He never sketched out on paper in order to prepare his definite work. He wrote straight off as he improvised . . . He wrote his music with such impetuosity of feeling and such a wealth of ideas that his hand was constantly lagging behind his thoughts, and in order to keep apace with them at all he had to note them down in an abbreviated manner." (Romain Rolland, in *Essays on Music*) Bach, Mozart, Liszt and Chopin also were among the ranks of com-

posers having extraordinary improvisatory abilities.

The Elements of Music

Contributing greatly to the polished improvisations of these master musicians were the main musical elements. These appear to be six in number; that is, imagination, melody, rhythm, harmony, counterpoint and form. How do these features blend to round out an improvisation? To find out, suppose we enter the mind of an imaginary gifted musician. Let us say that he is about to improvise something special on the piano.

Imagination comes first. He decides to thumb through the pages of the Book of Creation. Ah! There it is! The tranquillity of a woodland scene. Colorful birds in flight, a murmuring brook, majestic trees—they are all there. Next comes element two—the *melodic idea*. Can you hear the tune? This little melody may be only two measures long, but it best describes what our musician envisions—and it may well transport us to that calm and peaceful forest.

But the music must have *rhythm*—element three. An underlying pulse of three beats to each measure seems appropriate in this first section of the music. The continuous, unchanging pulse of one-two-three, one-two-three is termed “meter” in musical studies. Yet, this count does not move so fast that we sense something akin to a Strauss waltz.

The various rhythms superimposed on this basic meter will change according to the scene the improviser decides to “paint.” He can combine notes of varying time values in his melodic line, seemingly in limitless ways. Our impromptu composer musically depicts sheep gamboling in a nearby meadow, perhaps a pony trotting near a stable, or he may depict a herd of cows

moving slowly, listlessly, in a distant field.

The changing melodic patterns have suggested an interesting harmonic scheme that is very essential in developing this piece of music. *Harmony*—element four—basically is the simultaneous execution generally of three or more tones, resulting in a chord. Study of harmony also entails investigation of how to move from one chord to another in a way that further satisfies the musical appetite.

Our imaginary artist mentally hears how to combine harmony with melody, how to develop it smoothly into a flowing line that continues describing musically the picture established in his mind. Chirping birds suggest the use of trills (two adjacent notes played alternately at a very rapid speed). A cascading waterfall calls forth a series of arpeggios (the production of harmonic tones, not simultaneously, but one after the other). These start in the upper region of the keyboard, then descend to represent falling water. But what about those towering, majestic trees? They demand heavier chords played with both hands. And so our musician presses onward with his delightful improvisation.

Now it is time to return to the initial theme, to reestablish it. “How can I enhance the original melody, embellish it?” our composer asks himself. He decides to employ *counterpoint* (element five), weaving a secondary melodic line under the original one. This is not easy, especially when done impromptu. But the goal is achieved, treating the listener to a pleasant sensation he cannot quite describe, as he hears the original theme enhanced by the underlying movement of the contrapuntal line.

When our keyboard artist returns to the original melodic material, he introduces the sixth and final element—*form*. The form of music has to do with the overall

structure of the composition, its shape. The piece may be divided into two sections, in "binary" form. The first part may last for four, eight or more measures and is followed by a second section of about equal length. With the end of this second part, the entire composition comes to a close. However, if our pianist returns to the first section, concluding with it, we have "ternary" form. Upon undertaking the study of musical form, a person enters a vast realm, of course, one reaching up to the contents of the mammoth symphonic structure.

To what extent will a musician call upon his imagination to supply ideas for an improvised or written-out composition? That varies considerably among artists. Sometimes a relatively large mental picture, as used in the improvisation just described, is not necessary. It may be sufficient for the composer to imagine or feel a mood, perhaps joy, sadness, frustration or love. This may enable him to present a very satisfactory improvisation.

Restricted Improvisation

So far we have described what some might call a "free" or "complete" improvisation. But musical history acquaints us with what may be termed "restricted improvisation." For this type, certain elements are supplied beforehand. Improvisation of this sort flourished in the fourteenth century of the Common Era.

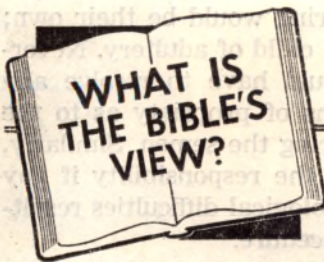
Let us take a closer look. Paul Henry Lang, a former professor of musicology at Columbia University, wrote: "The 14th century was an era of improvisation in which the written composition represented only the frame upon which the musical piece was built." (*Music in Western Civilization*) So, the musician had before him an outline of the music. He knew, therefore, what its harmonic structure was to

be. The player had knowledge of its rhythm and was given some indication as to dynamic levels, that is, how loud or soft a part was to be played. Nevertheless, it was left to him to build melody or inject it into this framework. Hence, he was improvising in a restricted way.

The same thing was true of the Baroque period of music history (especially in the seventeenth century). A composer gave only the outlines of his work. The score might contain just the solo part and thorough bass. It was up to the conductor, musicians and singers to complete the tapestry, as it were. And that required at least some imagination.

While thinking about "restricted improvisation," we cannot ignore twentieth-century American jazz. Jazz musicians generally perform in groups. They decide beforehand what they would like to play and develop improvisationally. Melody, harmony, rhythm and form are predetermined. It remains for the musician to build an improvisation around this—admittedly an art that requires thought, time and experience. This is a type of "restricted improvisation," but, of course, it does not belong in the same category as the improvisational presentations of composers like Bach or Beethoven.

Doubtless the art of musical improvisation will continue to cheer the hearts of many in future days, even as it has in the past. For one thing, man will never cease to be moved by the marvelous Book of Creation. Whether the inspired psalmist David improvised with harp in hand as he viewed the starry heavens, we cannot be sure. But certainly proper motivation and gratitude were there when he began his thrilling melody with the words: "The heavens are declaring the glory of God; and of the work of his hands the expanse is telling."—Ps. 19:1.



Is Artificial Insemination Acceptable to God?

THE first recorded case of human artificial insemination dates back to 1799. London physician John Hunter then used this means of making a woman pregnant with her own husband's semen. But only in recent years has artificial insemination become relatively common, with thousands of babies born each year as a result of it. When married couples resort to artificial insemination, it is generally because of the husband's sterility, and the donors of seed usually remain anonymous.

For centuries, people have viewed as an adulteress any woman who became the mother of a child not fathered by her husband, and the offspring has been considered illegitimate. Certain courts have taken a similar position regarding artificial insemination by anonymous donors. But viewpoints vary. Whereas some religious organizations object to such a method of impregnation, other groups favor it.

The Bible says "there exists a way that is upright

before a man, but the ways of death are the end of it afterward." (Prov. 14:12) In view of this, and because human reasoning often is faulty, one does well to ask: Is artificial insemination acceptable to God? What does his Word, the Bible, indicate?

For many years, artificial insemination has been employed in animal breeding. God gave man dominion over such creatures and allows him to use them for food, clothing, and so forth. (Gen. 1:28; 3:21; 9:2-4) The Mosaic Law forbade interbreeding animals of two sorts, but it did not otherwise limit what man might do to regulate animal reproduction. (Lev. 19:19) So, some Christians have felt that the Scriptures do not prohibit artificial insemination of animals.

But what about *human* artificial insemination by anonymous donors? That is quite another matter. For one thing, it can foster numerous problems. To illustrate: The resulting child may serve as a constant, nagging reminder of a husband's inability to father children. There may be some desirable elements lacking in the relationship of the man and the child, or even in that of the husband and wife. Some men have become "insanely jealous" of the unknown donors, and certain curious women have stolen hospital records to learn the identity of their child's father. Uncertainty about parentage may pose emotional problems for the child. Furthermore, mothers and adopting fathers may be conscience-stricken as they 'live a lie' by representing the offspring as entirely their own.—Ps. 40:4.

Though admittedly remote, another serious possibility exists. The anonymous donor might be closely related to the woman, and their offspring may suffer detrimental physical or mental effects because of the consanguineous relationship. Along similar lines, note what happened some years ago. A doctor received quite a shock when he learned that two particular young persons were planning to enter wedlock. Why? Because he was the only individual living who knew that they were half brother and half sister. This physician had impregnated both of their mothers with the seed of the same donor.—Compare Leviticus 18:9.

The people of ancient Israel did not have to face the question of human artificial insemination by an anonymous donor because it was not then being done. But the faithful among them would have shunned it completely, for God had decreed: "You must not give your emission as semen to the wife of your associate to become unclean by it." The penalty for disobedience was death. (Lev. 18:20, 29) Artificial insemination of a married woman by a donor other than her husband makes her guilty of adultery, a sin against God. (Deut. 5:18) Christians know that adulterers will not inherit God's kingdom and are warned that "God will judge fornicators and adulterers" adversely.—1 Cor. 6:9, 10; Heb. 13:4.

Inasmuch as artificial insemination by an anonymous donor is not acceptable to God, if a Christian married couple resorted to it, they would be in line for expulsion from the modern-day congregation of Jehovah's people. (Compare Leviticus 20:10.) After all, the consenting husband in effect gave his wife to another man, and the wife gave herself to that person in order to become the mother of a child by a man with whom she had not been yoked together by God in matrimony. (Matt. 19:4-6) The absence of direct physical contact and the fact that the consenting husband adopts the child cannot set aside the adulterous conduct.—1 Cor. 5:1-13.

Some Christian marriage mates who are unable to produce children have been told that this problem might be overcome if the husband provided sperm that could be administered to his wife artificially. If both husband and wife fully agree to have this done, that would be a personal matter, as God's Word says nothing about it and

a resulting offspring would be their own; it would not be a child of adultery. Nevertheless, they would have to resolve any personal questions of propriety as to the manner of acquiring the semen. Similarly, they would bear the responsibility if any medical or psychological difficulties resulted from the procedure.

Whether married Christians will adopt a child or not is also something they must decide. True, they may be very disappointed that they cannot have children of their own. Nonetheless, even if they have no children, such individuals may be assured that their earnest prayers to Jehovah God for his holy spirit and aid in cultivating such qualities as peace and joy will not go unanswered.—Luke 11:13; Gal. 5:22, 23.

Many have found true happiness in God's service though they did not have children. In ancient Israel, large families were common and barren women felt great disappointment. Nevertheless, Jephthah's daughter fulfilled her father's vow to God by remaining unmarried and childless all her life. Was she constantly depressed and miserable as a consequence of this? No, for Jehovah gave her joy in service at his sanctuary. (Judg. 11:30-40) Then, too, in these "last days," many Christian marriage mates view childlessness as a circumstance allowing them greater freedom to pursue the interests of God's kingdom.

Christian husbands who wish to father children but are unable to do so can draw comfort from Jehovah's assurance at Isaiah 56:3-7. In such circumstances, both Christian mates can be certain that, if they remain faithful to God, the greatest joy in life can still be theirs—that of having the approval of God.





Witnesses Convene

◆ Between June 20 and 30 the first 25 in a series of 62 "Divine Purpose" district assemblies were held by Jehovah's witnesses in 21 cities across the United States. The keynote speaker in each city forcefully advised the assembled Christians: "For the sake of surviving the 'great tribulation' all those now in the spiritual paradise must remain there, like Noah and his family in the ark, the door of which God shut behind them before the deluge burst upon the world." At these first 25 assemblies, a peak of 325,542 persons gathered to hear the important Bible information presented at these four-day assemblies, and 8,468 were baptized.

Financial "Holocaust"?

◆ Banks in America, Germany and Switzerland recently suffered staggering losses in the world's money market. International bankers consider Italy and Denmark to be on the verge of "national bankruptcy." Says Franz H. Ulrich, managing director of Düsseldorf's Deutsche Bank: "All possible resources will have to be mobilized so that the fire does not turn into a holocaust that would do irreparable damage . . . I do not want to exaggerate these dangers. But conditions can

change quickly. Economic and political developments can suddenly lead to lack of trust . . . Sometimes I am not able to rid myself of the feeling that such a day cannot be too far off."

A Losing Battle

◆ Is America leading the fight against poverty and hunger in the world? The head of an expert panel reporting to the Senate Select Committee on Nutrition and Human Needs answers that "the sad and tragic truth is that, over the past several years, we have moved backwards in our struggle." High prices are increasing the demand for traditionally cheaper foods. Dried beans, for example, far more than doubled in price since the end of 1970. How do some people cope with the problem? "As much as one-third of the pet foods sold in ghetto areas [are] being used for human consumption," says the experts' report.

Can It Be Stopped?

◆ Even without taking into account the fact that less than half of U.S. crime is actually reported, latest FBI figures reveal that in ten years violent crime rose 174 percent, SIXTEEN times as fast as the 11-percent population growth! Is this because nothing is being done? No. Local governments

now spend SEVEN times as much fighting crime as they did ten years ago, along with billions from the federal government. Yet across the nation 40 percent of the people polled are afraid to walk the streets at night. In big cities two thirds are afraid. "One fact emerges undisputed," says *U.S. News & World Report*, "what has been tried so far has not worked."

"The Biggest Lie"

◆ *The Atlanta Journal and Constitution* editor Reg Murphy, who recently survived a kidnapping, writes: "The biggest lie young Americans have ever been told has just hit millions of their ears in resplendent graduation ceremonies. The lie: The best is yet to come. The truth: Unless they find a way to turn down the violence in this society, the worst is yet to come. No point in telling more falsehoods."

"Think It Over"

◆ A Philippine Catholic priest writes in his column for a local magazine: "In a pamphlet of Jehovah's Witnesses they rightly published that almost all religions approve war, tolerate immorality and receive pay for services to God. The only answer that can be given to this is that not all MEMBERS of other churches approve . . . And not all churches officially have that stand. However, the contents of the pamphlet is a good subject for discussion and should be thought over by those who bear the name Christian."

Jewish Religious Malaise

◆ Fifty-three percent of American Jews are not members of any of the three branches of Judaism. This trend among younger Jews is as high as 60 percent. At a recent meeting of the 1,000-member Rabbinical Council of America, an Orthodox rabbi complained of

having to contend with modern life-styles that "emphasize obsession with sex and complete freedom from any discipline."

Promiscuity's Price

◆ The World Health Organization reports that venereal disease world wide shows "an overall upward trend," with gonorrhea "incidence in countries for which data were available being 10 to 50 times that of syphilis and still rising steeply nearly everywhere. The epidemiological pattern of gonorrhea appears to have changed, with increasing involvement of younger age-groups." Why the change? "Changing sexual habits [promiscuity]."

Any Connection?

◆ A recent survey of New Zealand clergy and laity found that three quarters of them do not believe that the Bible is literally the Word of God. And over half said that chastity before marriage is not an essential Christian doctrine. Then should anyone be surprised that last year New Zealand is reported to have had the highest annual rate of illegitimate births in any developed country?

Abortion Feedback

◆ "NURSES LEAVE AS ABORTIONS SNOWBALL," headlines the Southampton, England, *Southern Evening Echo*. The article notes that some young nurses are "placed under considerable strain," especially in cases where "signs of life exist." A nursing officer explains: "They come into the profession full of idealism, anxious to preserve life. It can be a shattering experience when they find themselves in a situation where . . . they are helping to destroy life."

"Antievolutionary Document"

◆ In 1967, the 192-page book *Did Man Get Here by Evolution or by Creation?* was pub-

lished by Jehovah's witnesses. It has since circulated to the number of almost 20 million copies, in 13 languages. Harvard geology teacher Stephen Jay Gould, writing in *Natural History* magazine, thus rightly says that it "may well be the most widespread antievolutionary document of modern times."—June-July 1974, p. 22.

Church and State

◆ The recently appointed Archbishop of Canterbury, Donald Coggan, now heads the (Episcopalian) Anglican Church of England. Embarrassingly, a Methodist appointed him! Why? That is the religion of England's prime minister, Harold Wilson, whose duty it is to make such appointments.

Explosive Worship

◆ Hawaii's Chinese are indignant at the recent U.S. ban on the use of fireworks. The Hawaii State Attorney General's office argues that firecrackers in Chinese religious ceremonies are deserving of constitutional protection. "The absence of loud noises and smoke produced by fireworks which serve to purify the area, cleanse people's souls, ward off evil spirits and invite the beneficent gods," it was claimed, "would render innumerable Chinese ceremonies and religious practices meaningless or tainted." The ban was temporarily postponed.

Sporting Blood

◆ An American ice-hockey coach visiting Moscow learned that Soviets are very serious about the sport. Their "scientific" approach includes "blood withdrawal and reinjection for added stamina." The blood is withdrawn "until the body replaces it." Then they "inject the original blood right back in" on the theory that with more blood "your heart doesn't work as hard and you don't tire so quickly." Possible side effects are still being studied.

China's Fear

◆ The Chinese are constructing an underground tunnel system that the head of an Indian goodwill delegation says "makes the Great Wall of China look like a toy castle." Fear of Soviet attack is said to be the motive. The tunnels visited by the Indian group in a northeast China city reportedly can contain its entire population of one million. They include shops, schools, factories and decontamination plants to deal with nuclear fallout. The tunnels have also been observed in other major cities.

Methodist Misgivings

◆ Since 1968 the United Methodist Church in America has lost about one million members! At their Central Illinois Conference annual meeting, a former head of the church's membership movement offered as one explanation: "The purpose of the church is to meet the needs of its membership . . . [to] show human concern and real love for people. We just haven't done it."

"God Save the Kung"

◆ Under this motto students of the controversial Swiss Catholic theologian Hans Kung will protest if he is condemned by Rome for his stand against papal infallibility. A three-year secret investigation of his book on the subject has been held before the Sacred Congregation for the Doctrine of the Faith (formerly known as the Inquisition). Tübingen University canon law professor J. Neumann calls the secret procedures without the right of self-defense a "modernized Inquisition."

Can They Catch Up?

◆ The U.N.'s first "World Housing Survey" reports that the world's gap between houses needed and houses built is increasing by 4-5 million each year in urban areas alone. The survey attributes

this "alarming rate" of decay to governmental failure to understand the movement to the cities as well as the lack of building technology and skilled labor.

"Asking for More"

◆ "Of course we're after money and we're going to be asking for more," says the head of Canada's largest Protestant denomination, the United Church. The money, he asserts, is for helping "a needy and hungry world." No mention of spiritual help was reported in the Toronto *Star* article, but he did say: "Of course, we're getting into political matters because it's not possible to lift ourselves privately to God." But has church politics ever 'lifted anyone publicly to God'?

Acid Rain

◆ The eastern U.S. and Europe are experiencing rainfall

100 to 1,000 times more acidic than normal! Ironically, some of this increase is attributed to the use of antipollution devices. They filter out solid particles that scientists believe are capable of neutralizing the acid that forms when the remaining gases are discharged from chimneys high into the air. In extreme cases, researchers found the rain to be as acidic as lemon juice! Damage to forest growth, outdoor structures and water life is said to be the probable result.

Is It Necessary?

◆ Of the 40,000 American women who undergo hysterectomies for benign tumors each year, *Family Health* magazine reports that a "considerable number" may not be necessary. Benign tumors called "myomas" can often be removed by local "myomectomies" rather than complete removal of

the reproductive organs, asserts the article. Dr. Francis M. Ingersoll, professor of gynecology at the Harvard Medical School, says: "Many medical students, residents, and even some practicing physicians are simply unaware that there is a surgical alternative to hysterectomy."

Twisting Tower

◆ The scheduled 1,805-foot height of the new Toronto transmission tower produced some construction problems. The earth's rotation caused the tower to twist counterclockwise during the record 1,464-foot concrete pour. Cables on the forms had to be continually adjusted to pull it back in line. When completed, its height will surpass the present free-standing record holder in Moscow by 57 feet. Still taller is a 2,108-foot antenna in Poland, but it is supported by guy wires.

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